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Some 854 upperclassmen and graduate students were administered the Edwards Personal Preference Schedule (EPPS). Profiles were analyzed in individual groupings by major area of study, natural combinations of interest, and indivudal major area groupings by school to identify the dominant personality needs of each group. Cross comparisons were also made. The statistical treatment of the data involved the t-test and analysis of variance with different comparisons of group organization. Because it was assumed that division into broader categories of natural affinities (males and females separated) might accentuate differences among groups, the overall groups were placed into three major classifications: (1) the away from people group, (2) the expressive group, and (3) the toward people group. However, fewer significant differences were identifiable on the 15 scales of the EPPS than when the overall groups were studied. It appeared that combining the narrowly defined groups into broad groupings resulted in a neutralization of individual patterns. Differences found among the natural groups of both the male and female subjects were in the expected direction. The F-ratios suggest a degree of inherent interrelationships among the groups. (Author/IM)

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A COMPARISON OF THE NEED STRUCTURE OF COLLEGE STUDENTS ENROLLED IN DIFFERENT ACADEMIC MAJORS: NATURAL GROUPINGS

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Introduction

The study, although of an exploratory nature, is of major theoretical and eventual, practical significance. Although the relationship of vocational interests to vocational adjustment has been thoroughly investigated by such authorities as Strong, the research possibilities of relating personality needs to vocational adjustment have so far been largely neglected. To the extent that vocational interests can be conceived as simply a reflection of personality needs, a logical argument can be presented for making personality needs, rather than interests, the focus of attention in guidance.

The basic premise of the present study, then, is that underlying the choice of an occupation is the individual's perception of the potential satisfaction of his basic needs as defined by the Edwards Personal Preference Schedule, that is, he perceives a particular occupational role as potentially capable of providing him with the basis for self-realization. The assumption that basic personality needs--whether cognitively identified or unconscious--affect one's vocational choice is of major significance since, in present-day society, no single situation is so directly involved in the satisfaction of one's needs as is his occupation.

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Design of the Study

The study was conducted at the University of Miami, Miami, Florida, and encompassed 854 upperclassmen and graduate students of various academic

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majors of the years 1959 to 1963, subjects over twenty-five years of age and/or scoring less than ten on the consistency scale of the EPPS excluded. Profiles were analyzed in individual groupings by major area of study, by natural combinations of interest and by individual major area groupings by school, in order to identify the dominant personality needs of each group. Cross comparisons were also made. The statistical treatment of the data involved the t-test and anlysis of variance with different comparisons of group organization.

The subject of this research report is the comparison of the natural groupings, i.e., on the assumption that if the groups, males and females separated, were divided into broader categories of natural affinities, differences among the groups might be accentuated, the overall groups were placed into three major classifications:

1. The "away from people" group contained students whose future occupational activities would not demand a constant involvement with other people. The major interest found would be with symbols or things and not interpersonal contact.

2. The "expressive" group combined students whose college and future occupational activities dealt with different modes of expression, e.g., verbally, musically, dramatically or artistically.

3. The "toward people" group combined those people who at the present time or in the future had as their major goal constant dealings with other people.

The following sub-groups were combined into the natural grouping:

MALE	FEMALE
Toward People	
1. Economics-Arts and Sciences and Economics-Business	1. Government-Arts and Sciences

2. Government-Arts and Sciences	2. History-Arts and Sciences
3. History-Arts and Sciences	3. Home Economics-Arts and Sciences and Education
4. Sociology-Arts and Sciences	4. Nursing-Arts and Sciences
5. Government-Business	5. Sociology-Arts and Sciences
6. Management-Business	6. Physical Education
7. Marketing-Business	7. Elementary Education
8. Physical Education	8. Foreign Languages-Education
9. Industrial Arts-Education	9. Social Studies-Education
10. Social Studies-Education	
Away from People	
1. Architectural Engineering	1. Electrical and Architectural Engineering
2. Civil Engineering	2. Botany, Chemistry and Zoology-Arts and Sciences
3. Electrical Engineering	3. Mathematics-Arts and Sciences and Education and Accounting-Business
4. Industrial Engineering	4. Science-Education
5. Mechanical Engineering	
6. Botany and Zoology-Arts and Sciences	
7. Chemistry-Arts and Sciences	
8. Mathematics-Arts and Sciences, Finance-Business, and Accounting-Business	
9. Science-Education	
10. Mathematics-Education	
Expressive Grouping	
1. Art-Arts and Sciences and Education and Radio-Television-Film-Arts and Sciences	1. Art-Arts and Sciences
2. English-Arts and Sciences and Education, and Speech-Education	2. Drama-Arts and Sciences
3. Music-Education	3. English-Arts and Sciences
	4. Art-Education
	5. Music-Education
	6. Speech and English-Education

Findings

Comparison of EPPS patterns for natural male groupings. As seen in Table I, the natural male groupings on the EPPS differed significantly on three of the fifteen scales, indicating that fewer significant differences are found

TABLE 11[a]

Comparison of Natural Male Groupings

Scale	$\bar{X}_1$ (Away from People) n=163	$\bar{X}_2$ (Expressive) n = 31	$\bar{X}_3$ (Toward People) n = 145	F
Achievement	16.63	16.45	16.77	.086
Deference	10.66	10.96	11.05	.400
Order	11.19	9.67	10.15	2.789
Exhibition	14.34	15.22	14.94	1.356
Autonomy	14.88	16.25	14.46	2.291
Affiliation	12.15	12.77	13.42	3.861*
Intraception	15.09	16.64	15.24	1.243
Succorance	9.49	9.45	9.60	.026
Dominance	17.47	16.32	18.86	4.76**
Abasement	11.63	10.51	10.97	1.013
Nurturance	11.76	12.70	12.97	2.362
Change	15.90	16.80	16.17	.492
Endurance	15.95	14.74	13.64	6.360**
Heterosexuality	18.23	17.96	17.04	1.835
Aggression	14.90	13.80	14.63	.755

a. In this and subsequent tables $\bar{X}$ will indicate mean, S will indicate standard deviation, and n will indicate number of subjects.

when the natural male groupings are studied than when the overall groups are compared. Although there are few significant differences found, the following trends are noted. The toward people group has a greater need for affiliation, succorance, and nurturance than the expressive and away from people groups. This group needs to be with other people and depends on them to give and receive support. Because of their dependence on others, the toward people group has less of a need for autonomy and independence than the other groups. A surprising finding is that this group has also a great need for deference. This might suggest that a basic need for deference is camouflaged by an interest in dealing with and dominating people. They have the highest need for achievement and the lowest need for endurance and heterosexuality.

The expressive group is characterized by a low need for achievement, order, succorance, dominance, abasement and aggression and by a high need for exhibition, autonomy, intraception and change as compared to the other two groups. This group is not high in the need to achieve or dominate. The group is not overly self-critical, nor do they harbor a great amount of aggression toward others. Yet, it is necessary for them to have the attention of others; this need to be the center of attraction may be reflected in the group's need to look into the motives behind other people's actions.

The away from people group is highest on the order, abasement, endurance, heterosexuality and aggression scales. It is lowest on the deference, exhibition, affiliation, intraception, nurturance and change scales.

This group is highly self-critical and has a need to endure on a task more than the other groups. The group is not deferent when dealing with other people and shows little need to be with people, look into people's motives or participate in a changing environment. The away from people group displays aggressive impulses toward others.

Comparison of EPPS patterns for natural female groupings. As shown in Table II, the natural female groupings differed significantly on four of the fifteen scales. Once again significant differences are lacking, but several trends are apparent. The away from people group has a high need for deference, order, autonomy, succorance, abasement, endurance and aggression and correspondingly less of a need for exhibition, affiliation, intraception, dominance and change. The toward people group has a greater need for affiliation, nurturance and heterosexuality and a lesser need for achievement, succorance, endurance and aggression than the other two groups. The expressive group is high in the need for achievement, exhibition, intraception, dominance and change and low on the need for deference, order, autonomy, abasement, nurturance and heterosexuality.

Sythesis and Conclusion

In order to get greater insights into personality need patterns of various majors, the overall groups were placed into three natural categories, i.e., the away from people group, the toward people group, and the expressive group. It was found, however, that fewer significant differences were identifiable on the fifteen scales of the EPPS than when the overall groups were studied. It appeared that combining the more narrowly defined

TABLE II

Comparison of Natural Female Groupings

Scale	$\bar{X}_1$ (Away from People) n=33	$\bar{X}_2$ (Expressive) n = 84	$\bar{X}_3$ (Toward People) n = 178	F
Achievement	14.25	15.32	13.37	5.750**
Deference	12.39	11.19	11.83	1.457
Order	10.75	10.11	10.50	.316
Exhibition	13.72	15.57	15.05	2.940
Autonomy	13.42	12.34	12.44	.823
Affiliation	14.51	15.61	16.41	3.226*
Intraception	17.39	18.07	17.88	.256
Succorance	12.15	12.10	12.01	.019
Dominance	13.18	14.44	13.62	1.118
Abasement	13.84	11.91	13.55	3.473*
Nurturance	15.66	15.36	16.55	1.916
Change	17.42	18.64	18.61	.826
Endurance	14.78	13.01	11.97	4.517*
Heterosexuality	14.24	14.21	14.54	.107
Aggression	12.09	11.80	11.34	.520

groups into broad groupings resulted in a neutralization of individual patterns.

It was apparent, though, that differences found among the natural groups of both the male and female subjects were in the expected direction. The toward people groups were high in the need for affiliation and nurturance. The expressive groups were high in the need for exhibition and change while the away from people groups were high in endurance, order, abasement and aggression. Although some significant differences were found, the low F ratios suggested that there was a degree of inherent interrelationships among the groups. However, if the categorization of neutral combinations were more selective to accentuate differences, significant differences might be found. The fact that the differences between the groups were in the expected direction supported this hypothesis.